

## CLAIMS

1. A network (5) for locating a wireless tag (6<sub>1</sub>, 6<sub>2</sub>), said network comprising a plurality of independent wireless nodes (4), each node being  
5 included in a layer or respective layer unit (3) for installation inside a building (2) and configured to be wirelessly connectable to at least one other node such that when said layer or layer units are installed, said plurality of nodes have a determinable spaced arrangement and provide overlapping wireless coverage for locating said tag by reference to said spaced arrangement.  
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2. A network according to claim 1, wherein said layer comprises a floor covering.
3. A network according to claim 1 or 2, wherein said layer  
15 comprises a carpet underlay.
4. A network according to claim 1, wherein layer units (3) include tiles for covering a floor.
- 20 5. A network according to claim 1 or 4, wherein said layer units include tiles for covering a ceiling.
6. A network according to any preceding claim, wherein said spaced arrangement comprises a regular pattern of nodes.  
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7. A network according to any preceding claim, wherein each wireless node includes means for receiving (14) a wireless signal and means (14) for transmitting a wireless signal.
- 30 8. A network according to any preceding claim, wherein each wireless node includes means (15) for determining a range to a neighbouring wireless node.

9. A network according to claim 8, wherein said means for determining a range comprises means (17) for determining a time of arrival of a received signal.

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10. A network according to claim 8 or 9, wherein said means for determining a range comprises means for determining a value of signal strength of a received signal.

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11. A network (5) for locating a wireless tag (6<sub>1</sub>, 6<sub>2</sub>), said network comprising:

a layer for installation inside a building; and

a plurality of independent wireless nodes (4) included in said layer, each node configured to be wirelessly connectable to at least one other node.

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12. A network element for forming part of a network (5) for locating a wireless tag, said network element comprising:

a layer unit (3) for installation inside a building; and

an independent wireless node (4) included in said layer unit and  
20 configured to be wirelessly connectable to at least one other node.

13. A network according to claim 11 or a network element according to claim 12, further comprising means (37) for generating power for a wireless node.

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14. A network or a network element according to claim 13, wherein said means (37) for generating power comprises a piezoelectric crystal.

15. A network according to claim 11 or a network element according to claim 12, further comprising means (38) for receiving power for a wireless node from an external source.  
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16. A network or a network element according to claim 15, wherein said means (38) for receiving power comprises inductive means.

17. A method of locating a wireless tag (6<sub>1</sub>, 6<sub>2</sub>) using a network (5) comprising a plurality of independent wireless nodes (4), each node being included in a layer or respective layer unit (3) installed inside a building and configured to be wirelessly connectable to at least one other node, the method comprising:

determining a spaced arrangement of said wireless nodes; and  
10 determining the location of said wireless tag with reference to said spaced arrangement.

18. A method according to claim 17, wherein determining said spaced arrangement of said wireless nodes comprises:

15 transmitting a first message (34) from a first node (4<sub>s</sub>), said first message identifying said first node;

noting a time of arrival of said first message at a second node (4<sub>i</sub>); and

transmitting a second message (35<sub>i</sub>) from said second node, said second message identifying said first and second nodes, the time of arrival of  
20 said first message and a time of transmission of said second message.

19. A method according to claim 18, further comprising:

transmitting a message (36) from said first node identifying the location of said first node within said spaced arrangement.

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20. A method of operating a wireless node (4) included in a layer or respective layer unit (3) installed inside a building (2) and configured to be wirelessly connectable to at least one other node, the method comprising:

co-operating with said at least one other node so as to determine  
30 location of said wireless node within a spaced arrangement of wireless nodes and

co-operating with a wireless tag (6<sub>1</sub>, 6<sub>2</sub>) so as to determine location of said wireless tag with reference to said spaced arrangement of wireless nodes.

21. A computer program (20) comprising instructions which, when  
5 executed by data processing apparatus (4), causes said data processing apparatus to perform the method according to claim 20.